

ABSTRACT OF THE DISCLOSURE

A method and apparatus for use in a mobile communications system having a plurality of cell segments includes allocating a plurality of channels to perform communications and defining a plurality of time groups. A channel reuse pattern is provided that is based on the plurality of channel frequencies and the plurality of time groups. Control channels are carried in a different time slot of a frame in each time group. Predetermined time slots are allocated as guard periods to reduce likelihood of interference of signaling due to overlap of time slots in neighboring cell segments. In one arrangement, three channel frequencies are allocated. Further, three or four time groups are defined to provide an effective 3/9 or 4/12 channel reuse pattern. In each time group, control channels are carried in odd time slots of a time-division multiple access (TDMA) frame. The even time slots are employed as guard periods to reduce likelihood of interference caused by overlapping time slots, which may occur in relatively large cells because of propagation delays in communications between mobile units and base stations.